REMARKS

The October 27, 2003 Official Action and references cited therein have been carefully reviewed. In light of the amendments presented herewith and the following remarks, favorable reconsideration and allowance of the application are respectfully requested.

At the outset, the Examiner has maintained the objection to the specification and rejection of claim 2 and 3 under 35 U.S.C. 112, first paragraph and 37 C.F.R. §§1.803-1.809. The Examiner alleges that the application fails to provide an affidavit or declaration stating that deposited cells will be replenished and all public access restrictions to deposited cells will be removed upon the granting of a patent on the instant application.

Claim 1 has also been objected to by the Examiner because it is the Examiner's position that the term "associated" is unclear. Applicants have cancelled claim 1, thereby obviating this objection.

Additionally, the Examiner has rejected claims 1-3 for allegedly failing to satisfy the written description requirement under 35 U.S.C §112, first paragraph. The Examiner asserts that the specification fails to describe a "representative number" of NE-like cell lines and fails to provide "structural features common to members of the genus." The Examiner also sets forth that a deposit accession number, as recited in claims 2 and 3, is not a substitute for an adequate written description.

Claims 1-3 are also rejected for allegedly failing to satisfy the enablement requirement under 35 U.S.C. §112, first paragraph. Specifically, the Examiner alleges that the specification does not provide enablement for generating an NE-like cell line with the same chromosomal constituents or properties as the NE-like cell lines of the invention. The Examiner also contends that a skilled artisan can not predict

that the claimed cell lines, based on the specification, are actually derived from a prostate cancer cell line or are associated with prostate cancer. Therefore, the Examiner concludes that a skilled artisan would be required to perform undue experimentation in order to practice the claimed invention.

The foregoing objections and rejections constitute all of the grounds set forth in the October 27, 2003 Official Action for refusing the present application.

THE SPECIFICATION AND CLAIMS 2 AND 3 FULLY COMPLY WITH THE DEPOSIT REQUIREMENTS SET FORTH IN 37 C.F.R. §§1.803-1.809

The Examiner has maintained the objection to the specification and rejection of claims 2 and 3 under 35 U.S.C. §112, first paragraph for allegedly failing to satisfy the deposit requirements for the claimed cell lines. Applicants continue to disagree with the Examiner.

Applicants respectfully submit that there is no explicit requirement under 37 C.F.R. §§1.803-1.809 for the submission of an affidavit or declaration as requested by the Examiner. Indeed, 37 C.F.R. §1.808(a) requires that:

> "A deposit be made under conditions that assure that ... all restrictions imposed by the depositor on the availability to the public of the deposited material will be irrevocably removed upon the granting of the patent."

The Budapest Treaty deposit form utilized by the Applicants to submit the claimed cell lines with the ATCC was previously submitted by Applicants in the July 28, 2003 response to the January 27, 2003 Official Action. As noted in the July 28, 2003 response, pages A6 and A8 of Exhibit A clearly indicate that the deposits were made under the condition that the "ATCC makes the culture available to anyone who requires it under USPTO Rules and Regulations (37 CFR 1.808[a][2])." Inasmuch as the deposits were made under the condition that they would

become available upon the issuance of the patent, Applicants submit the deposit meets the requirement under 37 C.F.R. §1.808(a).

Similarly, pages A6 and A8 of Exhibit A indicate that the Applicants have assumed the "responsibility to supply a sufficient quantity for distribution" for a period of time equivalent to that set forth in 37 C.F.R. §1.806. Clearly, the signed ATCC deposit form meets the requirement that viable samples will be maintained at the depository.

Applicants also submit that it has been previously established by the United States Court of Appeals that an Applicant's contract with a depository can "be made of record as evidence of making the culture available under the conditions stated above." In re Lundak, 227 USPQ 90, 92 (Fed. Cir. 1985). Notably, the stated conditions include removing "all restrictions on the availability to the public of the culture so deposited ... upon the granting of the patent" and "the permanent availability of the culture to the public." In re Lundak, 227 USPQ 90, 92 (Fed. Cir. 1985). Inasmuch as the deposit to the ATCC meets these conditions, Applicants submit the submission of the ATCC deposit contract is sufficient evidence and that nothing more is needed to meet the deposit requirements set forth in 37 C.F.R. §§1.803-1.809.

Based on all of the foregoing, Applicants' submit that the deposit requirements set forth in 37 C.F.R. §1.803-1.809 have been satisfied and are of record in the application and respectfully request the objection of the specification and the rejection of claims 2 and 3 under 35 U.S.C. §112, first paragraph be withdrawn.

CLAIMS 2 AND 3, AS AMENDED, SATISFY THE WRITTEN DESCRIPTION REQUIREMENTS UNDER 35 U.S.C. §112, FIRST PARAGRAPH

It is the Examiner's position that claims 1-3 fail to satisfy the written description requirement under 35 U.S.C

§112, first paragraph. Specifically, the Examiner asserts that the specification fails to provide "structural features common to members of the genus" of NE-like cell lines or provide a representative number of cell lines. Additionally, the Examiner contends that a deposit accession number, as recited in claims 2 and 3, is not a substitute for an adequate written description.

The Examiner sets forth at page 8 of the October 27, 2003 Official Action that the "written description requirement can be met by showing that an invention is complete by disclosure of sufficiently detailed, relevant identifying characteristics." Further, these characteristics can include "physical and/or chemical properties" and "functional characteristics." Applicants submit that the characterization of the subclones in Example 1 (page 10, line 23 through page 17, line 14) provides sufficient physical properties of NE-like cells to satisfy the written description requirement under 35 U.S.C. §112, first paragraph.

As noted by the Examiner at page 4 of the Official Action, the definition at page 8, lines 7-13 describes NE-like cells as cells derived from LNCaP human prostate cancer cells which have been cultured in androgen-depleted media. However, the definition further indicates that the "cells express high levels of marker proteins that are typically expressed in normal NE cells and are associated with aggressive progression of prostatic carcinomas." These marker proteins are specified in Example 1. Indeed, the claimed NE-like subclones are specifically characterized as expressing higher levels of NE-specific markers such as neuron-specific enolase (NSE) and neurotensin (NT) (see page 12, lines 5-13 and lines 25-32; and Figure 2). The NE-like cells are also further characterized as expressing undetectable levels of prostate-specific antigen (PSA) and androgen receptor (AR) (page 13, lines 7-15); expressing higher levels of RPTPα, a tyrosine phosphatase

critical for neuronal cell differentiation (page 14, line 33 through page 15, line 7); and increased levels of phosphorylated ERK1/2 and MEKs (page 15, lines 8-30). Based on all of the foregoing, Applicants submit that the specification provides sufficient identifying characteristics of NE-like cells to meet the written description requirement under 35 U.S.C. §112, first paragraph.

The Examiner, at page 6 of the Official Action, also contends that "one cannot determine whether the claimed NE-like cell lines, including NE-1-3 and NE-1-8, are derived from the authentic LNCaP" cells because of possible cross-contamination. Applicants wholly disagree with the Examiner. Notably, the reference cited by the Examiner in support of this potential cross-contamination (Masters et al. (2001) PNAS 98:8012-17) reveals that 18% of "new" cell lines deposited at the German Cell Line Bank were cross-contaminated (page 8012, left column). Therefore, the majority of deposited cell lines (i.e., 82%) are free of contamination. Further, there is no specific reference in Masters et al. to any cross-contamination in the LNCaP cell line. Applicants have demonstrated, however, that the LNCaP cells employed express the appropriate markers such as androgen receptor and prostate specific antigen as well as minimal levels of neuron-specific enolase and RPTPα. While the expression of appropriate markers as determined by Western blot analysis may not conclusively rule out cross-contaminations, the results are indicative of a contamination-free sample. Applicants also submit it is a well-established premise that the Examiner shoulders the "initial burden of presenting evidence or reasons why persons skilled in the art would not recognize in an applicant's disclosure a description of the invention defined by the claims." In re Wertheim, 191 U.S.P.Q. 90, 98 (CCPA 1976). Inasmuch as the Examiner has only provided mere speculation about the integrity of the LNCaP cells employed by

the instant Applicants, Applicants submit the Examiner has not met the requisite burden and, therefore, this issue can not be grounds for rejection under 35 U.S.C. §112, first paragraph.

The Examiner also asserts that a "deposit is not a substitute for a written description." Applicants strenuously disagree with the Examiner. Specifically, the courts have held that a:

> "reference in the specification to a deposit in a public depository, which makes its contents accessible to the public when it is not otherwise available in written form, constitutes an adequate description of the deposited material sufficient to comply with the written description requirement of §112."
>
> Enzo Biochem Inc. v. Gen-Probe Inc. 62 U.S.P.Q.2d 1609, 1613 (Fed. Cir. 2002).

Additionally, Applicants are not relying on the deposit of the cell lines as a substitute for an adequate written description. This deposit merely supplements the full written description provided in the instant specification, as noted hereinabove.

Lastly, Applicants also respectfully submit that the Examiner's requirement for structural features such as chromosomal constituents or short tandem repeat profiles of the claimed cell lines imposes an unacceptable burden on Applicants and is not supported by the language in 35 U.S.C. §112, first paragraph. Indeed, a review of recently issued patents directed to deposited cell lines omit this type of characterization. For example, U.S. Patent 6,541,250 claims an ATCC-deposited, melanocyte cell line that was isolated from human peripheral blood mononuclear cells and characterized only by the expression pattern of nine different cellular markers (see, e.g., column 3, lines 25-28). No chromosomal constituents or short tandem repeat profiles are described in U.S. Patent 6,541,250. Similarly, U.S. Patent 6,541,248 claims eight different human stromal cell lines that were

deposited at the ATCC. The cell lines, which were generated from human primary stromal cells, are characterized by the profile of cytokines secreted by the cells without identification of any chromosomal constituents or short tandem repeat profiles (see, e.g., Table 1). Therefore, Applicants submit that the Examiner's requirement for a description of features such as chromosomal constituents or short tandem repeat profiles is unwarranted.

In light of all the foregoing, Applicants contend that the claimed invention is adequately described in the specification. However, in an effort to expedite prosecution of the instant application, Applicants have cancelled claim 1 and amended claims 2 and 3 such that they no longer depend from claim 1. Thus Applicants respectfully request the rejection of claims 2-3, as amended, for allegedly failing to satisfy the written description requirement under 35 U.S.C. §112, first paragraph, be withdrawn.

CLAIMS 2 AND 3, AS AMENDED, SATISFY THE ENABLEMENT REQUIREMENTS UNDER 35 U.S.C. §112, FIRST PARAGRAPH

It is the Examiner's position that claims 1-3 fail to satisfy the enablement requirement under 35 U.S.C. §112, first paragraph.

As to claim 1, the Examiner contends that the culturing of LNCaP cells in androgen-depleted conditions, as described in the instant specification, may not produce cell lines with the same properties the claimed invention. It is the Examiner's conclusion that undue experimentation would be required for a skilled artisan to practice the claimed invention.

Applicants disagree with the Examiner's position that undue experimentation would be required to practice the claimed invention because a skilled artisan would readily be able to perform the same cell marker assays described in the

specification (see Example 1) to verify the isolated cell line. However, as noted hereinabove, claim 1 has been cancelled, thereby rendering this rejection moot.

As to claims 2 and 3, the Examiner again sets forth the argument that the claimed cells may be contaminated and, therefore, may not be derived from a prostate cancer cell line. For the reasons set forth hereinabove, Applicants submit that the Examiner's position is based solely on mere speculation as no evidence is provided that the LNCaP cell line has been contaminated. Additionally, Applicants maintain the marker profile of the employed LNCaP cell lines and derived NE-like cells are wholly consistent with prostate cancer cells and neuroendocrine cells, respectively. Inasmuch as the vast majority of established cell lines are free of any cross-contamination and in the absence of any showing the LNCaP cell line is commonly contaminated, Applicants submit that a skilled artisan would readily predict the cells employed in the instant application were, in fact, derived from a prostate cancer cell as claimed.

In light of all of the foregoing, Applicants respectfully request the withdrawal of the rejection of claims 2 and 3 under 35 U.S.C. §112, first paragraph as allegedly failing to satisfy the enablement requirement.

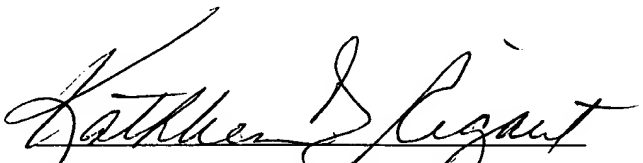
CONCLUSION

In view of the amendments presented herewith, and the foregoing remarks, it is respectfully urged that the objections and rejections set forth in the October 27, 2003 Official Action be withdrawn and that this application be passed to issue.

In the event the Examiner is not persuaded as to the allowability of any claim, and it appears that any outstanding issues may be resolved through a telephone interview, the

Examiner is requested to telephone the undersigned attorney at the phone number give below.

Respectfully submitted,
DANN, DORFMAN, HERRELL AND SKILLMAN
A Professional Corporation

By 
Kathleen D. Rigaut, Ph.D., J.D.
PTO Registration No. 43,047

Telephone: (215) 563-4100
Facsimile: (215) 563-4044